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Dr. L. V. Berkner
Chairman, Space Science Board
National Academy of Sciences
Washington 25, D. C.

Dear Lloyd -

I must apologize for the long delay in responding to your request for suggestions and comment on the reorganization of the Space Science Board. One of the reasons for delay is that I have no suggestions relative to a reorganization, as such. And what I am now going to suggest is concerned more with a piece of business that I would like to see the Board, in its old or new form, transact.

This concerns the overall picture of the life sciences effort in the space program. My suggestion is simply that the time is ripe for a separate document, perhaps in published form, to be issued by the Board embodying a set of definite judgments as to priorities and needs in the life science effort as a whole. I realize of course that we have made public statements on several points, either in official Board Memoranda or in the less "official" papers several of us have written. But these, even collectively, fail to come to grips with several things I have in mind, and lack the punch a single document would have. I hope, therefore, that if you and my biological colleagues on the Board agree, that you will set this as an urgent task for Lederberg, Lambertsen, Hartline and myself. If it is to be useful it should be done soon while Homer Newell and Chuck Roadman are still, presumably, feeling their way in the new NASA structure.

The primary function of such a document as I have in mind would be to set out explicitly the role of the life sciences in the total program, and to define rather strongly a hierarchy of priorities among the several objectives. It would include also some comments on how we feel these objectives will, probably, be best attained.

My principal worry stems from a definite impression I have from experience as a NASA consultant that the people in Clark Randt's old organization (they are still there, of course, reshuffled) have given far too much weight to what we, on the Board, are calling Environmental Biology, and only lip service to the view that the Exobiology issues are the only first-rank biological questions at stake. Thus I would like to see a published report re-emphasizing this. It would set out priorities as follows:

- (1) Exobiology
- (2) Man in Space
- (3) Environmental Biology

in that sequence. And it would go on to consider what should be done, and how, to pursue them.

In the case of Exobiology, for instance, we are not, in my view, doing enough or going about it the right way. Lederberg's laboratory is the only one that is doing a really significant job. NASA continues (as of a few months ago) to rely on unsolicited contract proposals, mostly from industrial organizations exploiting the opportunities created by the program. If we all feel that as I take it we do -- that the question of extraterrestrial life is the prime scientific goal in the life science program, and worthy of huge national expenditures then it is our responsibility to state flatly and strongly we are not doing enough, in the right way, to achieve it.

The Exobiology program merits, and demands, a National Institute approach, where there would be a small permanent nucleus of people and a large program of (well-rewarded) visiting fellows. The latter would be to attract very bright people from all sorts of disciplines to come for a time -- hear what the problems were, and have their brains picked etc. The permanent institute people would be doing, apart from the obvious ad hoc jobs, a wide spectrum of work on microbial physiology, and biochemistry. A fraction of the large sums now being awarded to indifferent proposals could put such an institute on its feet.

We are all concerned, I take it, with the fact that the money available in the space program far exceeds -- speaking now of the life sciences only -- the talent; and to some extent the problems, that are available. This has created an opportunity for exploitation by industry and by the second-rate in the universities. I am very much afraid that the NASA program Mr. Webb alluded to at our last Board meeting -- I have in mind his suggestion of a large number of Space Science Institutes in the universities -- will only aggravate the present situation. The money and research facilities this program will make available are likely to be seized on by opportunists - either among individuals or administrations - as something too good to pass up. My point here is a strong feeling that we (nationally speaking) should go slow in setting up such institutes until well-defined and good problems are involved (e.g. Exobiology) and especially until first-rate people become interested. Let us not work on problems unless good scientists think them good enough to merit their attention.

The new Ames Laboratory has me worried in this respect. The permanent NASA people in the life sciences there are not very good and recent information suggests they are rapidly expanding the place and the program, but not around exobiology. What is the aim and the program at Ames?

I am afraid this is already too long. There are other things to say especially concerning the relation of the man in space program to the questions of general Environmental Biology. But the purpose of my letter has been only to suggest the kind of things I have in mind - not to thrash out all of them now. In closing let me restate what I said at the last Board meeting: in my view a strong clear statement from the Board on these "policy" matters would be of far greater importance and utility than a dozen documents from panels on detailed technical issues. The life sciences space program nationally is in a mess in my view; and an increase of budget and opportunities for second-rate institutes will only increase the mess.

With kind regards,

Cordially,

/s/ C. S. Pittendrigh

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